

REMARKS:

- 1) Referring to item 10) of the Office Action Summary, the Examiner is respectfully requested to approve the formal drawings originally filed with this application on November 28, 2001.
- 2) Referring to item 12) of the Office Action Summary, the Examiner is respectfully requested to check the contents of the official file, and to acknowledge receipt of the Priority Document. The Priority Document was filed by mail on May 6, 2003 and was received in the USPTO on May 9, 2003, as evidenced by our return receipt postcard with a USPTO mailroom date stamp. Accordingly, please acknowledge receipt of the Priority Document.
- 3) The Examiner's attention is directed to applicant's second Information Disclosure Statement that was filed after the Office Action, namely on February 25, 2004 and was received in the USPTO on March 1, 2004. Please consider the references and return an initialed, signed and dated acknowledgment copy of the corresponding Form PTO-1449.
- 4) Claim 7 has been amended to recite an additional feature, namely that the circular seals are formed at locations within a depth of the recess displaced away from the terminal outer free edges of the recess wall portions. This feature is clearly exemplified

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and supported by the disclosure of the circular seals (34, 35) formed in the recess (31) in the elected embodiment as shown in Fig. 2 and further described in the specification at page 5, lines 12 to 17 and page 7, lines 24 to 27. Thus, the amendment of claim 7 does not introduce any new matter. Entry and consideration of the amendment is respectfully requested.

- 5) After the present amendment, all of the remaining claims 7 to 13 read on the elected Species I of Fig. 2.
- 6) Referring to pages 2 to 4 of the Office Action, the rejection of claims 7 to 12 as obvious over US Patent 5,609,757 (Schiavo et al.) in view of US Patent 3,428,208 (Kosar) is respectfully traversed.
- 7) Present independent claim 7 has been amended to make clear that the circular seals are formed at locations within a depth of the recess displaced away from terminal outer free edges of the recess wall portions. This important feature of the invention is exemplified by the circular seals (33, 34) formed in the recess as shown in present Fig. 2. Particularly, note that these circular seals (33, 34) are located within a depth of the recess (31) displaced away from the terminal outer free edges of the walls of the recess (and compare to Fig. 5 wherein the seals are formed at the terminal outer free edges of the walls of the recess).

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- 8) The Examiner has admitted that Schiavo et al. fail to disclose the details of the present inventive seal arrangement, wherein one of the sealing portions is a protrusion and the other of the sealing portions is a recess, which interact or mate to form the seals as presently claimed. Furthermore, additional important distinctions between the present invention and the disclosures of Schiavo et al. have been pointed out in applicants' remarks on pages 8 to 11 of the prior Response, which are incorporated herein by reference and expressly reasserted. Namely, the arguments regarding Schiavo et al. and regarding the lack of any motivation to combine Schiavo et al. with a secondary reference are pertinent against the present rejection as well. Due to the teachings of Schiavo et al. that a plurality of O-rings is necessary and advantageous in the arrangement according to Schiavo et al., a person of ordinary skill in the art would not have been motivated to use a seal arrangement according to Kosar, which does not use O-rings.
- 9) More importantly, even if the teachings of Kosar and Schiavo et al. would have been combined as asserted by the Examiner, the present invention would not have been suggested.

The disclosure of Kosar is significantly different from the present invention, and especially the elected embodiment of present Fig. 2. Particularly, Fig. 12 of Kosar shows that the convex protrusion forms a seal by seating and sealing against the corners or terminal edges of the concave groove of the mating component (see col. 3, lines 35 to 39 further in connection with col. 3, lines 26 to 30). That does not correspond to, and would

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not have suggested the presently claimed arrangement wherein the circular seals are formed at locations within a depth of the recess displaced away from the terminal outer free edges of the recess walls. In fact, the teachings of Kosar are quite clearly to the contrary of the present invention, by expressly requiring that the seal is formed by the terminal edge of the concave groove making a wedging contact with the convex protrusion of the mating component (col. 3, lines 25 to 30 and 35 to 39).

Moreover, the seal arrangement disclosed by Kosar, with a circular seal formed along the contacting outer free edges of the groove, corresponds to the non-elected Species of Figs. 5A and 5B of the present application. The key difference between the non-elected embodiment of Figs. 5A and 5B and the elected embodiment of Fig. 2 in this application is the location at which the circular seals (33, 34) are formed, namely within the depth of the recess according to the elected embodiment or at the outer free edges of the recess according to the non-elected embodiment. In the previous Election Requirement in this application, the Examiner expressly asserted that there is a patentable non-obvious distinction between the elected Species of present Fig. 2 and the non-elected Species of present Figs. 5A and 5B. Thus, the same patentable non-obvious distinction exists between the presently claimed invention and the disclosure of Kosar.

- 10) Furthermore, there is an important difference between the combination of the prior art references and the present invention relating to the component for generating a force to form and maintain the seal between the recess and the protrusion. In the

present invention, the releasable clamping device exerts a force that establishes and maintains the seal between the recess and the protrusion. On the other hand, the Kosar arrangement does not seem to necessarily include such a clamping or force-generating component, but instead the recess and the protrusion are connected and pressed together by the resilient force caused by deformation of the material. Thus, a person of ordinary skill in the art would not have been motivated to combine the references as asserted by the Examiner, and even if combined, the present invention would not have been suggested. Namely, the general sealing concepts of Kosar are quite different from those of Schiavo et al., and there would have been no suggestion or motivation toward combining such divergent sealing concepts.

- 11) For the above reasons, the Examiner is respectfully requested to withdraw the rejection of claims 7 to 12 as obvious over Schiavo et al. in view of Kosar.
- 12) Referring to page 4 of the Office Action, the rejection of claim 13 as obvious over Schiavo et al. in view of Kosar et al. and further in view of US Patent 5,154,827 (Ashelin et al.) is respectfully traversed.

The Ashelin et al. reference is cited for disclosing a filter cartridge formed of a fluororesin. Even if such teachings are combined with those of the above references, there still would have been no further suggestion toward the above features of independent claim 7.

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Moreover, while the housing head and bowl according to Schiavo et al. are said to be made of a fluororesin, that would have provided no suggestion toward making the very-different seal arrangement of Kosar out of a fluororesin. Kosar generally refers to the components being made of plastic, glass or sheet metal, whereby representative plastics are polyethylene, polystyrene, and polyvinyl. As discussed above, the manner in which the seal is established and maintained is significantly different in Schiavo et al. (necessarily using an O-ring and a cap nut) in comparison to Kosar (using deformation of the protrusion and groove), so that a person of ordinary skill in the art would not have been motivated to use the material of Schiavo et al. in the seal arrangement according to Kosar. In fact, because fluororesin is quite difficult to deform, a person of ordinary skill in the art would have been motivated directly against using the fluororesin material of Schiavo et al. in an arrangement according to Kosar, in view of the teachings of Kosar.

On the other hand, the inventive arrangement successfully uses fluororesin because it provides the clamping device and the different mating between the recess and protrusion as mentioned above.

For these reasons, the Examiner is respectfully requested to withdraw the rejection of claim 13 as obvious over Schiavo et al. in view of Kosar and Ashelin et al.


- 13) Favorable reconsideration and allowance of the application, including all present claims 7 to 13, are respectfully requested.

Respectfully submitted,

Masao OCHI et al.
Applicant

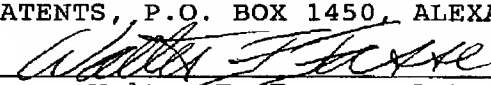
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